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# Outbreak of scabies in human beings, acquired from chamois (*Rupicapra rupicapra*)

A. Menzano, L. Rambozzi, L. Rossi

SEVERAL episodes of human scabies of animal origin, or pseudoscabies, have been reported (Acha and Szyfres 1989), but only a few reports have made reference to contact with wildlife. Skerratt and Beveridge (1999) described pseudoscabies in three people who had handled wombats (*Vombatus ursinus*) during a scabies epidemic in Victoria, Australia. A further case, derived from indirect contact with an infested red fox (*Vulpes vulpes*), was observed in a patient from metropolitan Berlin, Germany (Birk and others 1999).

Pseudoscabies has been reported, in general terms, as a condition affecting hunters and game wardens handling the carcasses of scabies-infested chamois (*Rupicapra rupicapra*) (Knaus and Schröder 1983, Boch and Schneidawind 1988) but there are no reports dedicated to pseudoscabies in human beings derived from this ruminant host, and awareness of this condition by dermatologists and people at risk of contracting pseudoscabies remains largely insufficient. This short communication describes an outbreak of pseudoscabies due to *Sarcoptes scabiei* var *rupicaprae* in people, as a result of handling infested chamois.

In November 2001, two women and five men, ranging in age from 28 to 54 years, were exposed to scabies during the capture of six infested chamois, carried out for scientific purposes, in Tarvisio, Italy. All the workers wore overalls, but four did not wear gloves while handling the animals.

Lesions appeared within 12 to 24 hours of exposure. The short incubation period was consistent with previous sensitisation of the people through repeated exposures to scabietic wildlife, such as chamois, red fox, wild boar (*Sus scrofa*) and ibex (*Capra ibex* and *Capra pyrenaica*) in the course of their work. All seven people developed several tens to some hundred pruritic, erythematous papules, 1 to 3 mm in diameter, which appeared over the course of seven to 10 days. A small vesicle was detectable on the tip of each papule within one to two days, and then a crust developed as a result of scratching. The single primary lesion healed in nine to 12 days.

In both women, papules and vesicles first appeared on the abdomen, especially around the umbilicus, and on the breasts; during the following week, the lesions spread to affect the chest, back, arms and legs, in that order. Lesions initially appeared on the arms (Fig 1) and then on the trunk, back and legs of the five men. In addition, a limited number of short (4 to 6 mm), burrow-like lesions were observed on the abdomen of the two women only. This last finding has only rarely been associated with pseudoscabies (Acha and Szyfres 1989). Lesions did not appear on the face, genitalia, hands or soles of the feet of any of the people.

Itching occurred predominantly at night, and a transitory rash developed in three people following nocturnal scratching fits. The second week after exposure was reported as being the most stressful because of intense itching and the cumulative effect of the hours of sleep lost.

One person, with the most severe clinical picture, was treated eight days after exposure by a single application of a 5 per cent permethrin cream (Elimite; Allergan) overnight; he recovered within approximately one week after treatment. The lesions and itching spontaneously resolved after 16 to 22 days in the remaining people, whose infestations were not treated.

As with previous descriptions of human scabies of animal origin (Burgess 1994, Mitra and others 1995, Skerratt and Beveridge 1999), no mites were isolated from repeated skin scrapings of three of the seven people.

A few mildly pruritic papules and vesicles appeared on the arms and legs of three more people (a man and two women) who had had no contact with the scabietic chamois but who shared a bed with their infested partner or had contact with infested clothes. The symptoms in these people resolved without any treatment during the second week after exposure.

Person-to-person transmission of animal-derived mites has only been described once previously (Skerratt and Beveridge 1999).

The agent of the outbreak reported here was *S. scabiei* var *rupicaprae*, whose main host is the Alpine chamois. Scabies epidemics have occurred since the 19th century in freeranging herds of this ungulate species throughout Austria, Germany, Slovenia and north-eastern Italy (Boch and Schneidawind 1988, Rossi and others 1995). A severe hyperkeratotic form of scabies has frequently been observed in infested chamois as the result of uncontrolled multiplication of the mites in immunotolerant individuals (Rode and others 1998). In the present cases, it appears that the large number of mites which were present on the skin of the affected chamois caused the previously sensitised people who handled them to become infested, despite the protective clothes they were wearing.

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